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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/074,345

02/12/2002

Halbert Tam

AMAT/6075/CMP/CMP/RKK

5690

32588 7590 06/25/2008

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EXAMINER

MCDONALD, SHANTESE L

ART UNIT

PAPER NUMBER

3723

MAIL DATE

DELIVERY MODE

06/25/2008

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HALBERT TAM AND GREGORY E. MENK

Appeal 2007-2310
Application 10/074,345
Technology Center 3700

Decided: June 25, 2008

Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and
DAVID B. WALKER, *Administrative Patent Judges*.

WALKER, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Appellants request rehearing of our Decision of January 30, 2008,
wherein we affirmed the Examiner's rejection of the appealed claims
1-25 and 30-38 under 35 U.S.C. § 103(a).

Appellants contend that we improperly ignored the motivation and suggestion cited by the Examiner and substituted a different reason for the rejection. They further argue that they have not, until the submission of this Request for Reconsideration, been given an opportunity to address the rejection that is “affirmed” by the Board (Request for Reconsideration 2).

We disagree. The Appellants cite the Examiner’s motivation as

[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the polishing method of Srinivasan et al. with a pre-polish step, a carousel, first and second platens and a controller, in order to remove the bulk overfill of dielectric material and more efficiently polish the substrates.

(Request for Reconsideration at 2 (citing Final Office Action, page 3; Examiner's Answer, page 4)). We noted the same motivation (Decision at 5-6), but did not specifically refer to the carousel, first and second platens and controller that were not in dispute. Instead, we focused on the pre-polishing step that was in dispute.

The Appellants also contend that we did not consider Spikes as a whole, and that

considering *Spikes, Jr.* as a whole, one of ordinary skill in the art would utilize the second polishing step as a slurryless polishing step. When considering *Spikes, Jr.* as a whole, “the second polishing process may be used to planarize the first post-polish surface” (See column 9, lines 51-52). Without using slurry in the second polishing step, “the first and second dishing non-uniformities 126, 130, may be shielded from the second polishing pad by the thicker portions of the first process layer” (See column 9, lines 56-58). Additionally,

“because slurry is not used during the second polishing process, the thicker portions of the first process layer 96 may be abraded without substantially affecting the lower regions of the first process layer” (*See* column 9, lines 59-62). Thus, when the first polishing step of *Spikes, Jr.* is inserted into *Srinivasan et al.*, the second polishing step (*i.e.*, *Srinivasan et al.*’s only polishing step) would contain slurry and affect lower regions, which *Spikes, Jr.* expressly teaches against.

(Request for Reconsideration at 3).

“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). *See also In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); and *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the *teachings* of references does not involve an ability to combine their specific structures.”).

We read the cited passages of *Spikes* as additional advantages that may be provided by using a substantially slurryless second polishing step, not a teaching away from using a second polishing step including slurry.

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the

line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

In re Gurley, 27 F.3d 551, 552-53 (Fed. Cir. 1994) (citations omitted).

“The prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed in the ... application.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). “The fact that the motivating benefit comes at the expense of another benefit, ... should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.” *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000).

In fact, Spikes itself teaches that some, although insignificant, slurry may remain. The second process is described as substantially slurryless, because a significant portion of the slurry is removed (Spikes, col. 9, ll. 1-13). Because some slurry may remain without causing damage that would affect lower regions as taught by Spikes, we do not find persuasive the Appellants’ argument that using the pre-polish step of Spikes with the polishing step of Srinivasan necessarily would adversely affect the lower regions of the first process layer.

Moreover, in *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739

(citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The pre-polishing step of Spikes has been used to improve the two-step polishing process disclosed therein. The Appellants have provided no persuasive evidence that using the pre-polishing step with the polishing process of Srinivasan is beyond the skill of one of ordinary skill in the art. It therefore would have been obvious to one of skill in the art to provide the polishing method of Srinivasan with a pre-polishing step in order to remove the bulk overfill of dielectric material and more efficiently polish the substrates.

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Accordingly, Appellants' request is granted to the extent we have reconsidered our Decision but is denied with respect to making any change therein. No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

DENIED

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